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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,243	06/24/2003	Eric P. Codner	960296.00018	1167
27114	7590	11/16/2005	EXAMINER	
QUARLES & BRADY LLP 411 E. WISCONSIN AVENUE, SUITE 2040 MILWAUKEE, WI 53202-4497			ALLAWI, ALI	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/602,243	Applicant(s) CODNER ET AL.	
	Examiner ALI ALLAWI	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 8-13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>08/21/2003</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The Information Disclosure Statement filed 21 August 2003 has been entered and the reference(s) considered by the examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 3, 5, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tajima (JAP 63-82346) in view of Johansen. (6,862,094)

In regards to claim 1, Tajima discloses a surface resonance apparatus and support frame structure that allows entrance and exit paths for receiving and transmitting the analyzed and modified light beams along two fixed axis. The disclosed optical assembly is further capable of being adjustable in directing the analyzing light beam received along the initial axis at one of a range of incident angles at a sample in the holder and for directing the reflected light received at corresponding one of a range of reflection angles from the second side of the film back along the second axis. (Please see Abstract and Figure 1)

Tajima disclose in detail an imaging SPR apparatus and instrument for use with a sample cell having a metallic film attached to probe molecules that are attached to a first side of the film.

Johansen discloses an imaging SPR apparatus that emits horizontally, and instrument for use with a sample cell having a metallic film attached to probe molecules attached to a first side of the film, which is exposable to material flow across that side of the film and having a transparent support attached to a second side of the film opposite the first side. (See Abstract, Col. 5: 25-32, Col. 6: 24-40, Figures 1a, 1b, 2a)

It would have been obvious to one having ordinary skill in the art at the time of invention to include the horizontal SPR apparatus and sample metallic film to allow for versatile and multiple measurements of incident angles of the film contents for a wider range of measurement, and eliminating the continuous use of realignments through the use of the adjustable reflective parts.

In regards to claims 2, Tajima discloses every thing as discussed above, and further discloses the two fixed axes that enter and exit the system to be horizontal and aligned. (Please see Abstract and Figure 1)

In regards to claims 3, Tajima discloses every thing as discussed above, and further discloses simultaneous changes synchronized movements of the moving parts of the receiving and transmitting sides of the apparatus to simultaneously change the angle of incidence and reflection by the same amount. (Please see Abstract and Figure 1)

In regards to claim 5, Tajima discloses every thing as discussed above, and further discloses an optical assembly allowing for adjustability of the position of the analyzing light beam incident on the second prism face which allows for correction of the offset of the modified light beam from the third prism face caused by refraction of the prism. (Please see Abstract and Figure 1)

In regards to claim 6, Tajima discloses every thing as discussed above, and further discloses an optical assembly constructed of movable and rotatable planar mirrors. (Please see Abstract and Figure 1)

In regards to claim 7, Tajima discloses every thing as discussed above, and further discloses the above apparatus having four planar mirrors wherein the first mirror receives the analyzing light beam through the entrance along the first axis and redirects the beam at a fixed angle to a second mirror moving about a point near the second side of film holder and/or prism. Tajima further discloses the optical assembly further including a third mirror movable about a point near the second side of the film holder to receive the reflected modified light beam from the second side of the film and direct the modified light beam at a fourth fixed angle to a fourth mirror transmitting the modified light beam to the exit along the second axis.

Claims 1, 4, and 14, are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansen (6,862,094) in view of Tajima (JAP 63-82346).

In regards to claim 1, Johansen discloses an imaging SPR apparatus that emits horizontally, and instrument for use with a sample cell having a metallic film attached to probe molecules attached to a first side of the film, which is exposable to material flow

across that side of the film and having a transparent support attached to a second side of the film opposite the first side. (See Abstract, Col. 5: 25-32, Col. 6: 24-40, Figures 1a, 1b, 2a). Johansen does not disclose in detail a support frame structure that allows for entrance and exit of paths that receive and transmit analyzed and modified light beams. Tajima discloses an SPR apparatus and support frame structure that allows entrance and exit paths for receiving and transmitting the analyzed and modified light beams along two fixed axis. The disclosed optical assembly is further capable of being adjustable in directing the analyzing light beam received along the initial axis at one of a range of incident angles at a sample in the holder and for directing the reflected light received at corresponding one of a range of reflection angles from the second side of the film back along the second axis. (Please see Abstract and Figure 1)

It would have been obvious to one having ordinary skill in the art at the time of invention to include the horizontal SPR apparatus and sample metallic film to allow for versatile and multiple measurements of incident angles of the film contents for a wider range of measurement, and eliminating the continuous use of realignments through the use of the adjustable reflective parts.

In regards to claim 4, Johansen discloses every thing as discussed above, and further discloses a coupling prism having a first prism face adjacent to the second side of the film and receiving from the optical assembly at a second prism face the analyzing light beam directed toward the second side of the film and provides to the optical assembly through a third prism face, the modified light beam reflected from the second side of the film. (See Abstract, Col. 5: 25-32, Col. 6: 24-40, Figures 1a, 1b, 2a).

In regards to claim 14, Johansen discloses every thing as discussed above, and further includes a light source directing the analyzing light beam along the first fixed axis and a imaging apparatus that may include a CCD device or a camera to receive the modified light beam along the second fixed axis for analysis. (See Abstract, Col. 5: 25-32, Col. 6: 24-40, Figures 1a, 1b, 2a).

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johansen (6,862,094) in view of Tajima (JAP 63-82346) and in further view of Hoppe et al (6,570,657).

As to claim 15, Johansen in view of Tajima disclose every thing as discussed above, except for having the holder supporting the sample cell with the first side of the film to be facing upward. Hoppe et al discloses a similar set up in which the first side of the film faces upward. (Please see Fig 1 and 2) It would have been obvious at the time of the invention to change the set up of the apparatus in a different orientation to allow for the first side to be facing upward.

Allowable Subject Matter

Claims 8-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record, taken alone or in combination, fails to disclose or render obvious a mechanism with moving specific parts that facilitate the movement of the

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reflecting mirrors, such as four-bar linkages, cams adapted to move in unison, and tracking mechanism, in combination with the rest of the limitations of the claim.

Conclusion

The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure.

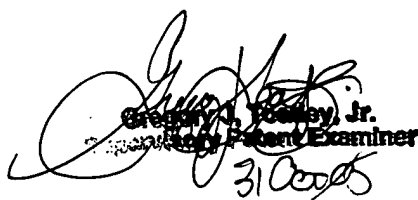
Corn et al. (6,330,062); Carl et al. (6,489,102).

Fax/Telephone Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ali Allawi whose telephone number is (571) 272-8285. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley Jr. can be reached on (571) 272-2059. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Gregory J. Toatley, Jr.
Patent Examiner
3/1/05